Federal Lands and Natural Resources: Overview and Selected Issues for the 113th Congress

Katie Hoover
Analyst in Natural Resources Policy

December 8, 2014

Congressional Research Service
7-5700
www.crs.gov
R43429

CRS Report for Congress
Prepared for Members and Committees of Congress

Summary

The Property Clause in the U.S. Constitution (Article IV, § 3, Clause 2) grants Congress the authority to acquire, dispose of, and manage federal property. The 113th Congress is considering multiple federal land and natural resources policy and management issues. These issues are complex and often interrelated, and include how much and which land the government should own, and how lands and resources should be used and managed. These issues affect local communities, industries, ecosystems, and the nation.

Four agencies (referred to in this report as the federal land management agencies, or FLMAs) administer a total of 614 million surface acres (95%) of federal lands: the Forest Service (FS) in the Department of Agriculture (USDA), and the Bureau of Land Management (BLM), Fish and Wildlife Service (FWS), and National Park Service (NPS), all in the Department of the Interior (DOI). The federal estate also extends to the energy and mineral resources located below ground and offshore. These include about 700 million onshore acres of the federal subsurface mineral estate that are managed by BLM. In addition, the Bureau of Ocean Energy Management (BOEM), also in DOI, manages approximately 1.7 billion offshore acres located in federal waters within and beyond the U.S. Exclusive Economic Zone. Not all of these acres contain extractable mineral and energy resources.

This report introduces some of the broad themes and issues Congress considers when addressing federal land policy and resource management. Federal land policy includes questions about the extent and location of the federal estate. For example, some legislation in the 113th Congress would continue funding laws that authorize the acquisition of additional lands, while other legislation proposes conveying some land out of federal ownership or management. Other issues for Congress include whether certain lands or resources should have additional protections, for example, by designating certain lands as wilderness or national monuments, or protecting endangered species and their habitat. Congress may also address questions about wildfire management on both federal and nonfederal lands, including questions of how to fund suppression efforts.

Other policy questions involve how federal land should be used. Certain federal lands are considered primary- or dominant-use lands as specified in statute by Congress. For example, the primary-use mission of the National Wildlife Refuge System is to conserve plants and animals, and the dual-use mission of the National Park System is to conserve unique resources and provide for their use and enjoyment by the public. BLM and FS lands, however, have a statutory mission to balance multiple uses: recreation, grazing, timber, habitat and watershed protection, and energy production. Conflicts arise as users and land managers attempt to balance these uses both spatially and temporally. The 113th Congress has introduced several bills that would attempt to clarify and prioritize these uses. Some legislation would prioritize timber production, while other legislation would prioritize habitat or species conservation above other uses. Some legislation would ensure that all federal lands were accessible for hunting and fishing, while other legislation would ensure access to federal lands for energy development. In addition to questions about balancing energy production against other uses, other questions include how to balance traditional and alternative energy production on federal lands. Congress also considers how to charge for access and use of federal resources and lands, how to use those funds, and if and how to compensate local governments for the presence of untaxed federal lands within their borders. Title XXX of the FY2015 National Defense Authorization Act (H.R. 3979) contains a package of provisions related to federal land and natural resources management.

Contents

Introduction 1
The Federal Land Management Agencies (FLMAs) 3
- Forest Service 4
- Bureau of Land Management 4
- Fish and Wildlife Service 5
- National Park Service 6
- Bureau of Ocean Energy Management 6

Federal Estate Ownership 7
Funding for Federal Lands 8
- Federal Payment Programs 9
- Land and Water Conservation Fund 10
- Deferred Maintenance 10

Climate Change and Federal Land Management 11
Offshore Federal Resources 13
- Energy Resources 14
- Special Marine Designations 15

Onshore Federal Energy and Mineral Resources 15
- Oil, Natural Gas, and Coal 16
- Renewable Energy Sources 17
- Locatable Minerals 20

Range Management 21
- Livestock Grazing 21
- Wild Horses and Burros 21

Recreation 22
Special Land Designations 23
- Wilderness and Roadless Areas 24
- The National Wild and Scenic Rivers System and the National Trails System 25
- National Monuments and the Antiquities Act 26

Species Management 27
- Endangered Species 28
- Invasive Species 29

Wildfire Management 30

Figures

Figure 1. Federal Onshore and Offshore Management Areas 2

Contacts

Author Contact Information 32

Introduction

Federal land management decisions influence the U.S. economy, environment, and social welfare. These decisions determine how the nation's federal lands will be acquired, developed, managed, and protected. Their impact may be local or regional, or may even rise to the national level. This report discusses selected federal land policy issues that the 113th Congress is addressing or may consider through oversight, authorizations, or appropriations. The report identifies CRS products that provide more detailed information.[1]

The federal government manages roughly 640 million acres of surface land, approximately 28% of the 2.3 billion acres of land in the United States.[2] Four agencies (referred to in this report as the federal land management agencies, or FLMAs) administer a total of 614 million acres (95%) of federal lands: the Forest Service (FS) in the Department of Agriculture (USDA), and the Bureau of Land Management (BLM), Fish and Wildlife Service (FWS), and National Park Service (NPS), all in the Department of the Interior (DOI). Most of these lands are in the West and Alaska, where the percentage of federal ownership is significantly higher than elsewhere in the nation (see **Figure 1**).[3] In addition, the Department of Defense administers 19 million acres in military bases, training ranges, and more; and numerous other agencies administer the remaining federal acreage.[4]

The federal estate also extends to the energy and mineral resources located below ground and offshore. These include about 700 million onshore acres of the federal subsurface mineral estate and about 1.7 billion acres located beyond state coastal waters—referred to as U.S. offshore areas—although not all of these acres contain extractable mineral and energy resources. The U.S. offshore areas, which lie within and beyond the U.S. Exclusive Economic Zone (EEZ), are also referred to as the Outer Continental Shelf (OCS). U.S. offshore areas represent approximately 4.5 million square miles, or an area about 23% larger than the total land area of the United States.

Federal land policy and management issues generally fall into several broad themes: Should federal land be managed to produce national or local benefits? How should current uses be balanced with future supplies and opportunities? Should current uses, management, and protection programs be replaced with alternatives? Who decides how federal land resources should be managed, and how are the decisions made? Some stakeholders seek to maintain or enhance the federal estate, while others seek to divest the federal estate to state or private ownership. Some issues, such as forest management and fire protection, involve both federal and nonfederal (state, local, or privately owned) land. In many cases, federal land issues do not divide along clear party lines. Instead, they may be split along the lines of rural-urban, eastern-western, and coastal-interior interests.

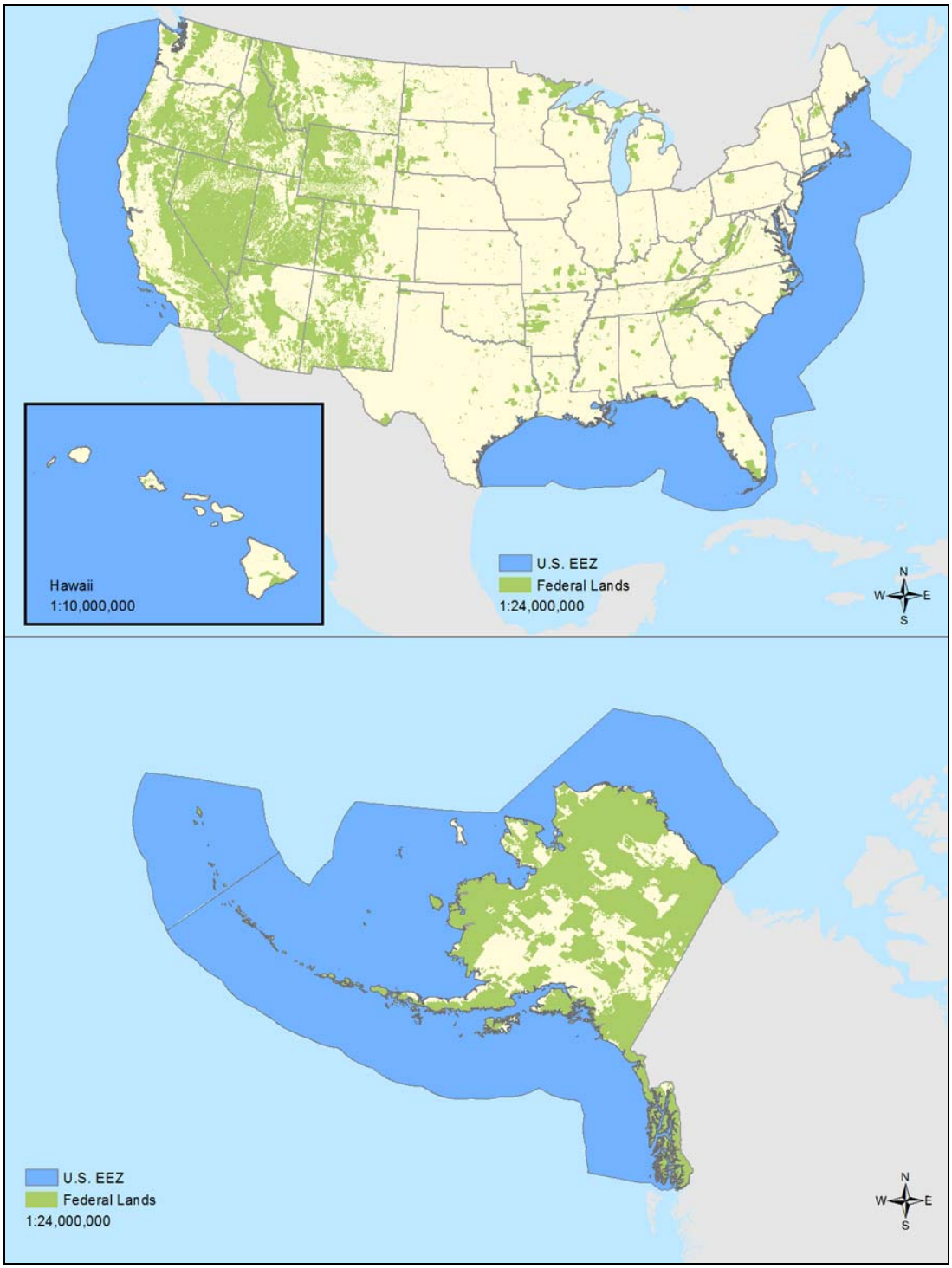
[1] For a comprehensive listing of CRS products on federal land issues, see CRS Issues Before Congress, Energy, Environment, and Resources: Federal Lands at http://www.crs.gov/pages/subissue.aspx?cliid=314&parentid=2522&preview=False.

[2] For more information, see CRS Report R42346, *Federal Land Ownership: Overview and Data*.

[3] Territorial acreage is also included in the figures.

[4] This report focuses on federal land managed by the four major FMLAs and the Bureau of Ocean and Energy Management. Issues related to land management by other agencies, such as the Department of Defense, are covered in other CRS products.

Figure 1. Federal Onshore and Offshore Management Areas



Source: CRS.

Notes: Federal lands in this figure include only the approximately 614 million acres of surface federal lands managed by the FLMAs. It is not uncommon to see statutory references to "federal waters," "U.S. EEZ" and "U.S. OCS." These terms might be used interchangeably in some policy contexts; however, most experts caution that each term can refer to a distinct geographical area. This map shows a generalized image of federal lands and submerged lands without attempting to demonstrate with any specificity the geographical area of the U.S. EEZ as defined by state or federal courts, lawmakers, or agency officials.

Several authorizing committees in the House and Senate have jurisdiction over myriad federal lands issues. For example, issues involving the management of the national forests cross multiple committee jurisdictions. In addition, federal land issues are often addressed during consideration of annual appropriations for the FLMAs' programs and activities.

This report introduces selected federal land issues, many of which are complex and interrelated. The discussions are broad and aim to introduce the reader to the range of issues regarding federal land management, while providing references to more detailed and specific CRS products available on the issue. After a background section on the FLMAs, the issues are grouped into 10 broad categories:

- Federal Estate Ownership
- Funding for Federal Land Management
- Climate Management
- Offshore Federal Lands
- Onshore Energy and Minerals Resources and Development
- Range Management
- Recreation on Federal Lands
- Special Land Designations
- Species Management
- Wildfire Management

The Federal Land Management Agencies (FLMAs)

Federal land ownership began when the original 13 states ceded title of some of their land to the newly formed central government.[5] The early federal policy was to dispose of federal land to generate revenue and encourage western settlement and development. However, Congress began to withdraw, reserve, and protect federal land through the creation of national parks and forest reserves starting in the late 1800s. The "reservation era" laid the foundation for the current federal agencies, whose primary purpose is to manage natural resources on federal lands.

The four federal land management agencies (FLMAs)—the Forest Service, the National Park Service, the Fish and Wildlife Service, and the Bureau of Land Management—administer about 95%-96% (614 million acres) of the 635-640 million acres of surface federal land,[6] and an additional 700 million acres of subsurface federal mineral estate (although not all of these acres contain extractable mineral and energy resources). In addition to the FLMAs, the Bureau of Ocean Energy Management administers nearly 2 billion acres of offshore federal submerged

[5] For more information, see CRS Report RL34267, *Federal Land Ownership: Constitutional Authority and the History of Acquisition, Disposal, and Retention.*

[6] The Department of Defense administers 19.4 million acres of federal land in the United States, and numerous other federal agencies—the U.S. Postal Service, the National Aeronautics and Space Administration, the Department of Energy, and many more—administer the remaining surface federal lands. Throughout the report, the term land management may include submerged land management where appropriate.

lands. These five agencies were created at different times, with different missions and purposes as discussed below, and are authorized in several different House and Senate committees. However, these agencies all receive funding through the annual Interior, Environment, and Related Agencies appropriations laws, as well as through various trust funds and special accounts.

Forest Service

The Forest Service (FS) is the oldest of the federal land management agencies. Although the first forest reserves—later renamed national forests—were created in 1891, the FS was established later, in 1905 in the Department of Agriculture. The FS is charged with managing the national forest system, as well as conducting forestry research and providing assistance to state and private forest owners. Today, FS administers nearly 193 million acres of land—including 155 national forests and 20 national grasslands—predominately in the West (although FS manages more than half of all the eastern federal lands).

The forest reserves were originally authorized to protect the lands, preserve water flows, and provide timber. These purposes were expanded in the Multiple-Use Sustained-Yield Act of 1960.[7] This act added recreation, livestock grazing, and wildlife and fish habitat as purposes of the national forests, with wilderness added as a defined management objective in 1964.[8] The act directed that these multiple uses be managed in a "harmonious and coordinated" manner and "in the combination that will best meet the needs of the American people." The act also directed the FS to manage the renewable resources under the principle of sustained yield, meaning to achieve a high level of resource outputs in perpetuity, without impairing the productivity of the lands. Congress reaffirmed and expanded the multiple-use sustained-yield management directive in subsequent legislation, including the Forest Rangeland Renewable Resources Planning Act of 1974 (RPA)[9] and the National Forest Management Act of 1976 (NFMA).[10] The RPA and NFMA also direct the FS to conduct long-range planning efforts to manage the national forests. Balancing the multiple uses across the national forest system has sometimes led to conflicts regarding management decisions and priorities.

Bureau of Land Management

The BLM was formed in 1946 by combining two existing agencies.[11] The BLM currently administers more onshore federal lands than any other agency—247 million acres. BLM lands are heavily concentrated (99.8%) in the 12 western states. Nearly half of the total acreage is in two states—Alaska (29%) and Nevada (19%). BLM lands, officially designated the National System of Public Lands, include grasslands, forests, high mountains, arctic tundra, and deserts. BLM

[7] P.L. 86-517; 16 U.S.C. §§ 528-531.

[8] The Wilderness Act of 1964 (P.L. 88-577; 16. U.S.C. §§1131-1136) established wilderness as a management responsibility for all of the federal land management agencies.

[9] P.L. 93-378; 16 U.S.C. §§1600, et seq.

[10] P.L. 94-588, 16 U.S.C. §§1600, et seq.

[11] These two agencies were the Grazing Service, established in 1934 to administer grazing on public rangelands, and the General Land Office, established in 1812 to oversee the disposal of the federal lands. For more information, see Paul W. Gates, *History of Public Land Law Development*, written for the Public Land Law Review Commission (Washington, DC: GPO, Nov. 1968), pp. 610-622.

lands often are intermingled with other federal or private lands, and the agency has authority to acquire, dispose of, and exchange lands under various authorities.

As defined in the Federal Land Policy and Management Act of 1976 (FLPMA),[12] BLM management responsibilities are similar to those of the FS—sustained yields of the multiple uses, including recreation, grazing, timber, watershed, wildlife and fish habitat, and conservation. For instance, about 156 million acres are available for livestock grazing, and about 27 million acres are in BLM's National Landscape Conservation System. Some lands are withdrawn (restricted) from one or more uses, or managed for a predominant use. The agency inventories its lands and resources and develops land use plans for its land units. In addition, BLM administers onshore federal energy and mineral resources, covering nearly 700 million acres of federal subsurface mineral estate, although not all of these acres contain extractable mineral and energy resources. BLM also supervises the mineral operations on about 56 million acres of Indian trust lands. Conflicts sometimes arise among and between users and land managers as a result of the diversity of the lands and multiple use opportunities provided on BLM public lands.

Fish and Wildlife Service

The first national wildlife refuge was established by executive order in 1903. In 1966 the refuges were aggregated into the National Wildlife Refuge System, administered by the Fish and Wildlife Service (FWS). Today, the FWS administers 89 million acres of federal land, of which 77 million acres (86%) are in Alaska.[13] The FWS also administers several largely marine refuges around Hawaii and U.S. territories in the Pacific (53 million acres total). Several large marine national monuments[14] are also administered by the FWS, but are not part of the National Wildlife Refuge System—they include the Papahanaumokuakea National Monument (89 million acres in Hawaii), the Rose Atoll National Monument (9 million acres in American Samoa), the Marianas Trench National Monument (10 million acres), and the Pacific Remote Islands Marine National Monument (49 million acres).

In contrast to the multiple-use missions of FS and BLM, the FWS has a primary-use mission—to conserve plants and animals. Other uses (motorized recreation, timber cutting, grazing, etc.) are permitted, to the extent that they are compatible with the species' needs, but wildlife-related activities (hunting, bird-watching, hiking, education, etc.) are considered "priority uses" and are given preference over consumptive uses such as timber, grazing, and minerals. Determining compatibility can be challenging, but the relative clarity of the mission generally has minimized conflicts over refuge management and use.

[12] P.L. 94-579; 43 U.S.C. §§ 1701, et seq.

[13] This total excludes federal lands for which the FWS has secondary jurisdiction (another federal agency has primary jurisdiction, and the lands are counted with that agency) and nonfederal lands administered under agreements, easements, and leases. It does include the Hanford Reach National Monument (WA; 32,965 acres), which is administered by the FWS but is not part of the National Wildlife Refuge System.

[14] See "Special Marine Designations" section in this report for more information on marine national monuments.

National Park Service

The National Park Service (NPS) was created in 1916[15] to manage the growing number of park units established by Congress and monuments proclaimed by the President. The national park system has grown to 401 units with diverse titles—national park, national monument, national preserve, national historic site, national recreation area, national battlefield, and many more.[16] The Park Service administers 85 million acres of federal land in all 50 states, the District of Columbia, and U.S. territories. Roughly two-thirds of the system's lands are in Alaska.[17]

The NPS has a dual mission—to preserve unique resources and to provide for their enjoyment by the public. Park units include spectacular natural areas (e.g., Yellowstone, Grand Canyon, and Arches National Parks), unique prehistoric sites (e.g., Mesa Verde National Park and Dinosaur National Monument), and special places in American history (e.g., Valley Forge National Historic Park, Gettysburg National Military Park, and the Statue of Liberty National Monument), as well as areas that focus on recreation (e.g., Cape Cod National Seashore and Glen Canyon National Recreation Area). NPS laws, regulations, and policies emphasize the conservation of park resources in conservation/use conflicts, and the system's lands and resources generally receive a higher level of protection than those of the BLM and the FS. The tension between providing recreation and preserving resources has produced many management challenges for the Park Service.

Bureau of Ocean Energy Management

The Bureau of Ocean Energy Management (BOEM) was established in 2010 as part of the federal response to the *Deepwater Horizon* oil spill.[18] Specifically, BOEM was created as part of DOI structural reforms to replace the Minerals Management Service (MMS), which was previously responsible for managing offshore energy resources.[19] BOEM's mission is to balance energy independence, environmental protection, and economic development through responsible, science-based management of offshore conventional and renewable energy resources in four regions: Atlantic, Pacific, Gulf of Mexico, and the Arctic (see **Figure 1**).

BOEM prepares and maintains a schedule of proposed oil and gas lease sales,[20] issues easements and leases for deploying renewable energy technologies,[21] and manages ownership records for offshore tracts leased for energy development. Furthermore, BOEM administers offshore sand and gravel resources to assist state beach replenishment efforts. OCS revenues are allocated

[15] Act of August 25, 1916; 16 U.S.C. §§1-4.

[16] For a discussion of the different park titles, see CRS Report R41816, *National Park System: What Do the Different Park Titles Signify?*, by Laura B. Comay.

[17] 54.7 million acres, 65% of the NPS total.

[18] Order No. 3299, issued by Former Secretary of the Interior Ken Salazar issued on May 19, 2010.

[19] The Minerals Management Service (MMS) was established in 1982 after congressional committees held a number of hearings in 1981 documenting persistent problems with management of offshore energy programs. United States Commission on Fiscal Accountability of the Nation's Energy Resources, *Fiscal Accountability of the Nation's Energy Resources* (Washington, GPO, 1982).

[20] 43 U.S.C. §1344. The current Five Year Program went into effect August 27, 2012, and is expected to remain in effect until 2017. 77 *Federal Register* 40080 (July 6, 2012).

[21] P.L. 109-58, § 388(a).

mainly to two federal programs—the Land and Water Conservation Fund and the Historic Preservation Fund.[22]

BOEM manages energy resources in areas covering approximately 1.7 billion acres located beyond state waters and comprising areas defined in the Outer Continental Shelf (OCS) Lands Act, as amended in 1978 (OCSLA).[23] Most OCS acreage is concentrated in the Alaska region (approximately 1.03 billion acres), but some OCS acreage exists off all coastal states.[24] Because of the cross-cutting nature of its management responsibilities, BOEM shares some responsibilities with two other DOI agencies: the Bureau of Safety and Environmental Enforcement (BSEE) and the Office of Natural Resources Revenue (ONRR).[25]

CRS Products

CRS Report R42346, *Federal Land Ownership: Overview and Data*, by Carol Hardy Vincent, Laura A. Hanson, and Marc R. Rosenblum.

CRS Report R40225, *Federal Land Management Agencies: Background on Land and Resources Management.*

CRS Report RL34267, *Federal Land Ownership: Constitutional Authority and the History of Acquisition, Disposal, and Retention*, by Kristina Alexander.

CRS Report R42656, *Federal Land Management Agencies and Programs: CRS Experts*, by Katie Hoover.

CRS Report R43137, *Department of the Interior Ocean Energy Bureaus: Status of 2010 Structural Reforms and Issues for Congress*, by Curry L. Hagerty.

Federal Estate Ownership

The ownership and use of federal lands has generated controversy for decades. One key area of debate is the extent of the federal estate; or, in other words, how much land the federal government should own (**Figure 1**). This debate includes questions about disposing of some federal land to state or private ownership, or if additional land should be acquired for conservation, open space, or other purposes. For lands retained in federal ownership, questions have centered around whether to curtail certain land designations (e.g., national monuments

[22] P.L. 90-401 and P.L. 94-422, respectively. Other OCS revenues are deposited in various accounts designated for states, other programs, and the General Treasury.

[23] 43 U.S.C. § 1331 et. seq. Generally, the OCS begins 3-9 nautical miles from shore (depending on the state) and extends 200 nautical miles outward, or farther if the continental shelf extends beyond 200 miles. The United States declared its exclusive economic zone (EEZ) in Presidential Proclamation No. 5030, 48 *Federal Register* 10605 (March 14, 1983); see 43 U.S.C. § 1331(a). Federal jurisdiction can be subject to principles of international law. After 1978, the OCSLA statutory framework incorporated certain requirements of the National Environmental Policy Act (NEPA, 42 U.S.C. § 4321).

[24] Not all of these acres contain energy resources.

[25] Each agency emphasizes a different mission. BSEE is responsible for safety permitting and environmental enforcement; and ONRR for collecting, auditing, and disbursing public revenues from offshore projects.

proclaimed by the President or special management areas established by Congress) or if current management procedures should be changed (e.g., to allow a greater role for state and local governments or to expand economic considerations in decision-making). A separate issue is how to ensure the security of international borders along the federal lands, which are managed by multiple agencies.

The Property Clause in the U.S. Constitution (Article IV, § 3, Clause 2) grants Congress authority over federal property, and the Supreme Court has described Congress's power to legislate under this clause as "without limitation." Congress has granted the FLMAs varying and limited authorities to acquire and dispose of land. The extent of this authority varies considerably among the FLMAs. The BLM has relatively broad authority for both acquisitions and disposals under the FLPMA. By contrast, the NPS has almost no general authority to acquire land to create new park units or to dispose of park lands without congressional action. The FS authority to acquire lands is mostly limited to lands within or contiguous to the boundaries of a national forest. The agency has various authorities to dispose of land, but they are relatively constrained and infrequently used. The FWS has various authorities to acquire lands, but no general authority to dispose of its lands. For example, the Migratory Bird Conservation Act of 1929 grants the FWS authority to acquire land for the National Wildlife Refuge System—in part using funds from the sale of hunting and conservation stamps—after state consultation and agreement.[26]

The current acquisition and disposal authorities form the backdrop for consideration of measures to establish, modify, or eliminate authorities, or to provide for the acquisition or disposal of particular lands. Congress also addresses acquisition and disposal policy in the context of debates on the role and goals of the federal government in owning and managing land generally, and has considered broader measures to dispose of lands or to promote acquisition.

CRS Products

CRS Report R42346, *Federal Land Ownership: Overview and Data*, by Carol Hardy Vincent, Laura A. Hanson, and Marc R. Rosenblum.

CRS Report RL34273, *Federal Land Ownership: Acquisition and Disposal Authorities*, by Carol Hardy Vincent et al..

CRS Report RL34267, *Federal Land Ownership: Constitutional Authority and the History of Acquisition, Disposal, and Retention*, by Kristina Alexander.

CRS Report R41770, *Leasing and Selling Federal Lands and Resources: Receipts and Their Disposition*, by Carol Hardy Vincent and Marc Humphries.

Funding for Federal Lands

Funding for federal land and natural resource programs presents an array of issues for Congress. Most of the FLMAs receive appropriations through the Interior, Environment, and Related

[26] 16 U.S.C. § 715 et seq. The Migratory Bird Conservation Act permanently authorized and appropriated a fund supported through the sale of hunting and conservation stamps, import duties on arms and ammunition, and a portion of certain refuge entrance fees.

Agencies appropriations bill.[27] In addition to questions related directly to appropriations, other funding questions relate to the compensation of counties for the presence of federal lands, including whether to revise or maintain existing payment programs. A second set of questions relates to the Land and Water Conservation Fund, from which Congress appropriates funds for land acquisition by federal agencies, outdoor recreation needs of states, and other purposes. Under debate are the levels, sources, and uses of funding and whether the funding should be reauthorized and continued as discretionary. A third set of issues relates to the maintenance of assets by the agencies, particularly how to address their backlog of maintenance projects while achieving other government priorities.

Federal Payment Programs

As a condition of statehood, most states forever waived the right to tax federal lands within their borders. However, some believe federal lands may create demand for services such as fire protection, police cooperation, or longer roads to skirt the federal property. Under federal law, local governments are compensated through various programs due to the presence of federally owned land. Some of these programs are run by specific agencies and apply only to that agency's land. In addition, portions of the rents and royalties charged for energy development and production on both onshore and offshore federal lands may be shared with the states or local governments where the land or mineral deposit is located.

The most widely applicable program, administered by the DOI, applies to many types of federally owned land, and is called "Payments in Lieu of Taxes," or PILT. Counties with NPS lands primarily receive payments under PILT. The FS and BLM have additional payment programs based primarily on receipts from revenue-producing activities on their lands; FWS has a smaller payment program for certain refuge lands. One program (Secure Rural Schools or SRS) compensates counties with National Forest System lands or certain BLM lands in Oregon for declining timber harvests. The adequacy, coverage, and equity of the payment formulas for all of these programs are recurring issues for Congress, particularly in the case of SRS and PILT payments.

CRS Products

CRS Report R42439, *Compensating State and Local Governments for the Tax-Exempt Status of Federal Lands: What Is Fair and Consistent?*, by M. Lynne Corn.

CRS Report RL31392, *PILT (Payments in Lieu of Taxes): Somewhat Simplified*, by M. Lynne Corn.

CRS Report R41303, *Reauthorizing the Secure Rural Schools and Community Self-Determination Act of 2000*, by Katie Hoover.

CRS Report R42404, *Fish and Wildlife Service: Compensation to Local Governments*, by M. Lynne Corn.

[27] For more information on agency appropriations, see CRS Report R43142, *Interior, Environment, and Related Agencies: FY2013 and FY2014 Appropriations*, by Carol Hardy Vincent, or see CRS Issues Before Congress, Interior, Environment, and Related Agencies' Appropriations at http://www.crs.gov/pages/subissue.aspx?cliid=2346&parentid=73&preview=False.

CRS Report R42951, *The Oregon & California Railroad Lands (O&C Lands): Issues for Congress*, by Katie Hoover.

Land and Water Conservation Fund

The Land and Water Conservation Fund Act of 1965 was enacted to help preserve, develop, and assure access to outdoor recreation facilities to strengthen the health of U.S. citizens. The law created the Land and Water Conservation Fund (LWCF) in the U.S. Treasury as a funding source to implement its outdoor recreation purposes. The LWCF has been the principal source of monies for land acquisition for outdoor recreation by the four FLMAs. The LWCF also has funded a matching grant program to assist states in recreational planning, acquiring recreational lands and waters, and developing outdoor recreational facilities. Further, LWCF has been used to fund other federal programs with purposes related to lands and resources.

The LWCF is authorized at $900 million annually through September 30, 2015. While the fund accrues revenues and collections from multiple sources, nearly all of the revenues are derived from oil and gas leasing in the OCS. Congress determines the level of appropriations each year, and yearly appropriations have fluctuated widely since the origin of the program.[28] Of the total revenues that have accrued throughout the history of the program ($36.2 billion), less than half have been appropriated ($16.8 billion).[29]

There is a difference of opinion as to the appropriate level of funds for LWCF and how those funds should be used. Current congressional issues include deciding the amount to appropriate for land acquisition, the state grant program, and other purposes and whether to alter the processes for allocating acquisition funds and state grants. The primary context for debating these issues is annual Interior appropriations legislation. Several other issues have been under debate, including whether to reauthorize the LWCF beyond 2015; to provide the fund with permanent appropriations at the authorized level; to direct revenues from additional activities to the LWCF; to limit the use of funds for particular purposes, or, alternatively, to require some of the funds to be used for certain purposes; and to prohibit the disposal of, or limit the use of, lands acquired with LWCF monies.

CRS Product

CRS Report RL33531, *Land and Water Conservation Fund: Overview, Funding History, and Issues*, by Carol Hardy Vincent.

Deferred Maintenance

The FLMAs have maintenance responsibility for their buildings, roads and trails, recreation sites, and other infrastructure. Congress continues to focus on the agencies' deferred maintenance, often called the maintenance backlog, defined as maintenance that "was not performed when it should have been or was scheduled to be and which, therefore, is put off or delayed for a future

[28] However, monies provided to the state grant program under §105, Division C, P.L. 109-432 are permanently appropriated.

[29] These figures are estimated through FY2014.

period."[30] The agencies assert that continuing to defer maintenance of facilities accelerates their rate of deterioration, increases their repair costs, and decreases their value.

Congressional and administrative attention has centered on the NPS backlog, which has continued to increase from a FY1999 estimate of $4.25 billion. Currently, DOI estimates deferred maintenance for the NPS for FY2013 between $9.12 billion and $13.42 billion, with a mid-range figure of $11.27 billion. A majority of the backlogged maintenance (58%) is for roads, bridges, and trails. The other FLMAs also have maintenance backlogs. DOI estimates deferred maintenance for FY2013 for the FWS at between $1.63 billion and $2.39 billion and the BLM backlog at between $0.67 billion and $0.82 billion. The FS estimated its backlog for FY2012 at $6.03 billion.[31] Thus, the four agencies together had a combined backlog estimated at between $17.45 billion and $22.65 billion, with a mid-range figure of $20.05 billion.

The backlogs have been attributed to decades of funding shortfalls to address capital improvement projects. However, it is not clear how much total funding is provided for deferred maintenance each year because annual presidential budget requests and appropriations documents typically do not identify and aggregate all funds for deferred maintenance. Currently, there is debate over the appropriate level of funds to maintain infrastructure, whether to use funds from other programs/sources, how to balance maintenance of the existing infrastructure with the acquisition of new assets, and the priority of maintaining infrastructure relative to other government functions.

Climate Change and Federal Land Management

Scientific evidence shows that the United States' climate has been changing in recent decades.[32] This poses several interrelated and complex issues for the management of federal lands and resources, in terms of mitigation, adaptation, and resiliency. Overall, climate change is introducing uncertainty about conditions previously considered relatively stable and predictable. Given the diversity of federal land and resources, concerns are wide-ranging and include, among other things, invasive species, sea-level rise, wildlife habitat changes, and vulnerability to extreme weather events, as well as concerns about the effects of these changes on tourism and recreation. More specific observed impacts include a fire season that begins earlier and lasts longer, warmer winter temperatures that allow various insect and disease infestations to persist, thinner snowpacks that melt earlier and contribute to drought conditions, and habitat shifts that may or may not exacerbate the status of sensitive species. Another concern is how climate change may impact some iconic federal lands, such as the diminishing size of the glaciers that cover Glacier National Park and several parks in Alaska,[33] or the flooding of some wildlife refuges.

[30] This definition is taken from the *Statement of Federal Financial Accounting Standards No. 6*, p. 31, available on the website of the Federal Accounting Standards Advisory Board at http://www.fasab.gov/pdffiles/sffas-6.pdf.

[31] The FY2012 estimate is the most recent readily available at publication of this report.

[32] This report does not address the causes of multi-decadal climate change. For more discussion of climate change science, see National Research Council, *Advancing the Science of Climate Change*, Washington DC, 2010. See also CRS Report R43229, *Climate Change Science: Key Points*, by Jane A. Leggett.

[33] Gregory T. Pederson, Stephen T. Gray, and Daniel B. Fagre, *Long-Duration Drought Variability and Impacts on Ecosystem Services: A Case Study from Glacier National Park, Montana*, U.S. Geologic Survey, Earth Interactions, Volume 10, Paper 4., January 2006, http://www.ncdc.noaa.gov/paleo/pubs/pederson2006/pederson2006.html.

The role of the federal government in responding to climate change is currently under debate. Some stakeholders see future climate conditions as representing an increased risk to the effective performance of the FLMAs' missions and roles. Others are concerned that a focus on climate change adaptations may divert resources and attention from other agency activities and near-term challenges. The debate largely hinges on how to make investments that will cost-effectively assist the agencies in successfully performing their activities in the near term and in future decades.

A related debate is the role of federal agencies—particularly the BLM and BOEM—in energy production on federal lands. Specifically in question is the extent to which the agencies should provide access to and promote the different sources of energy production. Both traditional sources of energy (non-renewable fossil fuels such as oil, gas, and coal) and alternative sources of energy (renewable fuels such as solar, wind, and geothermal) are available on federal lands. However, since fossil fuel emissions contribute to climate change, some argue that the agencies should prioritize renewable energy production on federal lands over traditional energy sources.

Several Administration-led efforts have been undertaken to prepare for the evolving climate change challenges facing federal land managers. In 2013, President Obama released a Climate Change Action Plan, which thus far has comprised a series of executive actions aimed to "reduce carbon pollution, prepare the United States for the impacts of climate change, and lead international efforts to address global climate change."[34] As part of the effort, the President established goals for renewable energy permitting on federal lands (discussed in more detail in the "Renewable Energy " section of this report). In Executive Order 13514 (2009), all federal agencies were instructed to participate actively to develop "approaches through which the policies and practices of the agencies can be made compatible with and reinforce" a national climate change adaptation strategy.[35] Further, the Council on Environmental Quality proposed draft guidance in 2010 on how federal agencies should consider the potential impacts of agency actions on climate change during the environmental review process required by the National Environmental Policy Act (NEPA). [36]

GAO Reports on Climate Change and Federal Land Management

Various Adaptation Efforts Are Underway at Key Natural Resource Management Agencies, GAO-13-253, May 31, 2013, http://www.gao.gov/products/gao-13-253.

Climate Change: Future Federal Adaptation Efforts Could Better Support Local Infrastructure Decision Makers, GAO-13-242, April 12, 2013, http://www.gao.gov/products/gao-13-242.

High Risk Series: An Update. GAO-13-359T, February 14, 2013, http://www.gao.gov/highrisk.

Climate Change: Agencies Should Develop Guidance for Addressing the Effects on Federal Land and Water Resources, GAO-07-863, August 7, 2007, http://www.gao.gov/products/GAO-07-863.

Adaptation: Strategic Federal Planning Could Help Government Officials Make More Informed Decisions, GAO-10-113, October 7, 2009, http://www.gao.gov/products/GAO-10-113.

The implementation status of FLMA adaptation efforts and their impact on operations and decision-making vary across the agencies. Some activities, such as those targeted at managing

[34] Executive Office of the President, *The President's Climate Action Plan*, June 2013, http://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf.

[35] Executive Order 13514, "Federal Leadership in Environmental, Energy, and Economic Performance" (Washington: GPO, 2009).

[36] P.L. 91-190, 42 U.S.C. § 4321. Council on Environmental Quality, *Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts*, February 18, 2010, http://www.whitehouse.gov/administration/eop/ceq/initiatives/nepa/ghg-guidance.

risk and integrating adaptive decision frameworks into decision-making, may now be incorporated as elements into climate change adaptation strategies and plans. A Government Accountability Office (GAO) report found federal resource managers were not prioritizing how climate change was already affecting, and may continue to affect, the resources for which they were responsible, and cited among the challenges that government officials face in their efforts to adapt to climate change: competing priorities, lack of guidance, insufficient site-specific data, and uncertainties about future change.[37] A survey of federal land managers found that the most common climate change actions that had been implemented fell into the following categories: public information and education, limiting or reducing emissions, forest thinning or fuel reduction, and additional measures to protect wildlife.[38]

Congress is addressing agency climate change efforts through appropriations, oversight, and legislation. Issues for Congress include whether additional statutes, regulations, or guidance for climate change is needed. More specific legislative issues for Congress may be the extent to which federal resources support a strategy to achieve long-term climate change policy goals, the demands of climate change programming for the FLMAs and the resources they manage, proposals to restructure or improve collaboration among the FLMAs regarding climate change activities, and possible reporting requirements to support congressional decision-making and oversight.

CRS Products

CRS Report R43230, *Climate Change Legislation in the 113th Congress*, by Jonathan L. Ramseur.

CRS Report R43227, *Federal Climate Change Funding from FY2008 to FY2014*, by Jane A. Leggett, Richard K. Lattanzio, and Emily Bruner.

CRS Report R43229, *Climate Change Science: Key Points*, by Jane A. Leggett.

CRS Report R43120, *President Obama's Climate Action Plan*, coordinated by Jane A. Leggett.

CRS Report R41144, *Deforestation and Climate Change*, by Pervaze A. Sheikh.

CRS Report R41691, *Forest Management for Resilience and Adaptation*, by Pervaze A. Sheikh.

Offshore Federal Resources

Since 1978, the cornerstone of managing offshore federal resources within and beyond the U.S. EEZ has been the mandate to consider two national interests: meeting domestic energy demands and protecting the environment.[39] Historically, public concern about U.S. dependence on foreign fuels and about vulnerability of shoreline communities to oil-spill risks has prompted

[37] GAO, *Climate Change: Future Federal Adaptation Efforts Could Better Support Local Infrastructure Decision Makers,* GAO-13-242, April 12, 2013, http://www.gao.gov/products/gao-13-242.

[38] K. M. Archie et al., "Climate Change and Western Public Lands: A Survey of U.S. Federal Land Managers on the Status of Adaptation Efforts," *Ecology and Society*, vol. 17, no. 4 (2012).

[39] The Outer Continental Shelf Lands Act (OCSLA, 43 U.S.C. §1331 et. seq.) and the National Environmental Policy Act (NEPA, 42 U.S.C. § 4321).

policymakers to debate allowing access to certain ocean areas for offshore drilling.[40] This debate has a complicated and controversial history. Those in favor of protecting marine and coastal areas from oil-spill risks support banning drilling through moratoriums, non-development zones, and other measures. Others claim that reducing the nation's dependence on foreign sources requires increasing offshore oil and gas development to strengthen and diversify the nation's domestic energy portfolio, and the drilling can be done in a safe manner that protects marine and coastal areas. A related theme is the tension over whether access should be granted or deferred in certain ocean areas.

Energy Resources

The federal government's ocean energy resource management responsibilities are national in scope, covering vast ocean areas belonging to the United States (see **Figure 1**). Since 2005, when Congress clarified federal authority for managing ocean renewable energy resources, BOEM has been in the process of estimating renewable ocean energy resources to facilitate electricity generation from offshore wind, thermal power, and kinetic forces from ocean tides and waves.[41] According to the Energy Information Administration, by 2015 offshore wind projects are anticipated to have 200 MW of offshore wind capacity, producing about 750 million kWh per year of electricity.[42] These estimates contribute to resource management decisions in two different BOEM programs: the Offshore Renewable Energy Program[43] and the Five-Year OCS Oil and Gas Leasing Program.[44] No leases are yet producing within the Offshore Renewable Energy Program; BOEM administers over 6,000 leases within the oil and gas program.[45]

BOEM weighs environmental protection with the growing domestic energy needs through a multi-step process requiring consideration of a variety of water-dependent activities (military operations, fishing, shipping, tourism, and conservation).[46] Given the persistence of this balancing

[40] The drilling debate is a combination of several discrete debates about oil and gas leasing activity in federal waters. Congress addresses multiple issues related to access (state-federal consultations about revenue sharing, adequacy of environmental reviews, timetables for drilling permitting, operational safety, receipts and disbursements, research).

[41] P.L. 109-58. For more information about deployment of renewable energy projects, see http://www.boem.gov/Renewable-Energy-Program/Smart-from-the-Start/Index.aspx. Estimates of OCS energy resources are available from a variety of sources, including BOEM, the Energy Information Administration, and industry sources. Due to the maturity of the offshore oil and gas sector, information supporting oil and gas reserve and resource estimates is often more robust than information about renewable resources. For a complete analysis of OCS resources, see CRS Report R40645, *U.S. Offshore Oil and Gas Resources: Prospects and Processes*, by Marc Humphries and Robert Pirog.

[42] The first site proposed for an offshore wind farm is off the coast of Massachusetts—the so-called "Cape Wind" project, comprising approximately 46 square miles in Nantucket Sound. See EIA Annual Energy Outlook 2012, at http://www.eia.gov/oiaf/aeo/tablebrowser/#release=AEO2013ER&subject=0-AEO2013ER&table=16-AEO2013ER&region=0-0&cases=early2013-d102312a, or Table 16 at http://www.eia.gov/forecasts/aeo/er/tables_ref.cfm.

[43] 43 U.S.C. §1337(p).

[44] 43 U.S.C. §1344. The most recent Five-Year Oil and Gas Leasing Program was approved on August 27, 2012, and covers a period from 2012 through 2017.

[45] In 2011, BOEM conveyed 181 new leases to qualified companies operating in the Gulf of Mexico as part of issuing new oil and gas leases. In addition, BOEM approved 1,342 applications from companies owning existing leases requesting BOEM change the record of lease ownership to another company. BOEM written communication to CRS October 9, 2012. BOEM approved the following lease assignments during 2011: 358 applications for assignments involving 100% ownership interest in a lease and 984 applications for assignments involving less than 100% ownership interest in a lease.

[46] For more information about this process, see CRS Report RL33404, *Offshore Oil and Gas Development: Legal Framework*, by Adam Vann.

process, the 113th Congress has faced some perennial (and unresolved) questions. Are statutory changes needed to improve management of ocean energy resources? If so, what measures might be called for; and where and how would such measures be implemented? How might statutory changes to allow or defer access to ocean areas affect oil-spill risks, if at all? How might such changes affect energy supplies? What potential gains or losses might stem from such changes with respect to future receipts and disbursements from offshore projects?

CRS Products

CRS Report R40175, *Wind Energy: Offshore Permitting*, by Adam Vann.

CRS Report RL33404, *Offshore Oil and Gas Development: Legal Framework*, by Adam Vann.

CRS Report R41132, *Outer Continental Shelf Moratoria on Oil and Gas Development*, by Curry L. Hagerty.

CRS Report R40645, *U.S. Offshore Oil and Gas Resources: Prospects and Processes*, by Marc Humphries and Robert Pirog.

Special Marine Designations

Congress has the authority to designate marine national monuments, as well as marine areas of special significance. For example, areas may be identified as marine sanctuaries pursuant to the National Marine Sanctuary Act (NMSA).[47] Marine sanctuaries range in size from less than one square mile to more than 137,792 square miles. The National Oceanic and Atmospheric Administration (NOAA)—an agency within the Department of Commerce—is responsible for managing 14 of these protected areas. Through the NMSA, activities are identified that can and cannot occur within the sanctuaries, sometimes in conjunction with state agencies or international organizations.[48] Some activities, such as research, may be permitted on a seasonal basis. Other special marine designations include marine protected areas (MPAs) and marine reserves. In these areas, some uses—particularly extractive uses such as fishing and oil and gas development—can be restricted or prohibited (also referred to as "no-take" areas), at times attracting controversy.

CRS Product

CRS Report RL32154, *Marine Protected Areas: An Overview*, by Harold F. Upton.

Onshore Federal Energy and Mineral Resources

Much of the federal estate is open to mineral exploration and development, including most BLM and many FS lands. However, NPS lands, areas within the National Wilderness Preservation System, and certain other federal lands have been specifically withdrawn from exploration and

[47] National Marine Sanctuaries Act, 16 U.S.C. 1431 et seq.

[48] One of the purposes and policies of the National Marine Sanctuaries Act (NMSA) is to "cooperate globally." In other words, Congress recognized a need to work outside sanctuaries' boundaries to fully comply with the primary mandate to protect sanctuary resources.

development. Recent concerns over energy supply and pricing have led some to look increasingly to federal lands as a potential energy source, for both traditional sources of energy and renewable energy projects. Balancing energy and mineral development and environmental protection is a perennial issue in managing federal lands. Another issue is if—and how much—the federal government should charge for these resources.

CRS Products

CRS Report R42756, *Energy Policy: 113th Congress Issues*, by Carl E. Behrens.

CRS Report R41770, *Leasing and Selling Federal Lands and Resources: Receipts and Their Disposition*, by Carol Hardy Vincent and Marc Humphries.

Oil, Natural Gas, and Coal

Oil and natural gas produced on federal lands account for 5% and 13% of total U.S. oil and gas production, respectively.[49] Congressional interest in these issues has focused on access to federal lands, the permitting process and timeline, how much to charge for leases and royalties, revenue collections, and how to balance environmental concerns. Development of oil, gas, and coal on federal lands is governed primarily by the Mineral Leasing Act of 1920 (MLA).[50] The MLA authorizes the Secretary of the Interior—through the BLM—to lease the subsurface rights to virtually all BLM and FS lands that contain fossil fuel deposits, with the federal government retaining title to the lands.[51] The MLA authorizes both competitive and noncompetitive bidding processes for oil and gas exploration and production leases, and competitive bidding for most coal leases. Leases include an annual rental fee and a royalty payment generally determined by a percentage of the value or amount of the resource removed or sold from the federal land. In addition, the Energy Policy Act of 2005 (EPAct05)[52] includes provisions governing access, leasing, and management of energy development on BLM and FS lands.[53]

Access to federal lands and permitting projects for energy and mineral development have been controversial issues. In 2008, BLM had 113 million acres of onshore federal lands open and accessible for oil and gas development, and about 166 million acres were off-limits or inaccessible.[54] The oil and gas industry contends that entry into the currently unavailable areas is necessary to ensure future domestic oil and gas supplies. Opponents maintain that the restricted lands are unique or environmentally sensitive and that the United States could realize equivalent energy gains through conservation and increased exploration on current leases or elsewhere. A

[49] Budget Justifications, Bureau of Land Management, FY2013, p. VIII-107.

[50] 30 U.S.C. §181.

[51] Exceptions include most BLM and FS lands classified as wilderness, lands incorporated in cities and towns, and lands that have otherwise been administratively or statutorily withdrawn from entry.

[52] P.L. 109-58.

[53] For further information, see CRS Report R40806, *Energy Projects on Federal Lands: Leasing and Authorization*, by Adam Vann.

[54] U.S. Departments of the Interior, of Agriculture, and of Energy, *Inventory of Onshore Federal Oil and Natural Gas Resources and Restrictions to Their Development (Phase III)*, May 2008, available on the BLM website at http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/EPCA_III.html. The availability of public lands for oil and gas leasing can be divided into three categories: lands open under standard lease terms, open to leasing with restrictions, and closed to leasing.

related access issue is the extent to which BLM or FS may regulate hydraulic fracturing on federal lands. BLM has proposed two different draft rules—one in 2012 and then a revision in 2013—but has not issued final regulations as of publication of this report.[55] The proposed regulations would also extend to national forests, although FS is also debating this issue during the forest planning process at the individual unit level.

Another controversial issue is the permitting process and timeline, which EPAct05 revised for oil and gas permits. Although the time it takes BLM to process applications has decreased since FY2006, the time it takes applicants to respond and resolve issues with the applications has increased over that time period.[56] EPAct05 also authorized a pilot project to improve efficiency of processing oil and gas permits through FY2015.[57] After three years of implementation, a 2008 BLM report described improved interagency communication and a reduction in the time needed to review and process permit applications in the pilot locations.

Forty-three percent of U.S.-produced coal comes from federal lands. As a result, there are several congressional concerns, such as how to balance coal production against other resource values for federal lands. Other concerns include how to assess the value of the coal resource, what is the fair market value for the coal and what should be the government's royalty. In response to these congressional concerns, a 2013 GAO analysis found inconsistencies in how BLM evaluated and documented federal coal leases.[58] In addition, a 2013 DOI Inspector General report found BLM may have violated provisions in the MLA by accepting below-cost bids for federal coal leases.[59]

CRS Products

CRS Report R40806, *Energy Projects on Federal Lands: Leasing and Authorization*, by Adam Vann.

CRS Report R42432, *U.S. Crude Oil and Natural Gas Production in Federal and Non-Federal Areas*, by Marc Humphries..

Renewable Energy Sources

Concern over the impact of emissions from fossil fuel-fired power plants has resulted in increased interest in renewable energy sources. Interest in renewable energy sources has also been driven by the increasing adoption of statewide renewable portfolio standards that require electricity producers to supply a certain minimum share of electricity from renewable sources.[60] Both BLM

[55] 77 *Fed. Reg.* 27691, May 11, 2012, and 78 *Fed. Reg*. 31636, May 24, 2013.

[56] Bureau of Land Management, "Average Application for Permit to Drill (APD) Approval Timeframes: FY2005-FY2012," http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/statistics/apd_chart.html.

[57] U.S. Department of the Interior, Bureau of Land Management, *Year Two Report: Section 365 of the Energy Policy Act of 2005—Pilot Project to Improve Federal Permit Coordination* (Feb. 2008).

[58] U.S. Government Accountability Office, *Coal Leasing: BLM Could Enhance Appraisal Process, More Explicitly Consider Coal Exports, and Provide More Public Information*, GAO-14-140, December 2013, http://www.gao.gov/assets/660/659801.pdf.

[59] U.S. Department of the Interior, Office of Inspector General, *Coal Management Program*, CR-EV-BLM-0001-2012, June 11, 2013, http://www.doi.gov/oig/reports/upload/CR-EV-BLM-0001-2012Public.pdf.

[60] As of March 2013, 29 states and the District of Columbia have enforceable renewable portfolio standards, and 8 states have voluntary goals for renewable generation. U.S. Department of Energy, *Database of State Incentives for* (continued...)

and FS manage land that is considered suitable for renewable energy generation, and as such have authorized projects for geothermal, wind, solar, and biomass energy projects. Congressional interest in renewable energy resources on federal lands has focused on access, the permitting and leasing process, how much to charge for leases and royalties, market development, and how to balance environmental concerns with the development and production of these resources. These environmental concerns include wildlife impacts from wind turbines and water supply requirements for solar energy. In addition, some in Congress are interested in establishing a separate leasing system for managing solar and wind energy projects.

CRS Product

CRS Report R40806, *Energy Projects on Federal Lands: Leasing and Authorization*, by Adam Vann.

Geothermal Energy

One renewable energy source is geothermal energy, which is energy produced from heat stored under the surface of the earth. Geothermal leasing on federal lands is conducted under the authority of the Geothermal Steam Act of 1970, as amended.[61] BLM has the delegated authority for managing the permitting and leasing geothermal requirements for federal lands, in consultation with FS. In 2008, BLM and FS released a record of decision making 110 million acres of BLM public lands and 79 million acres of National Forest System lands available for leasing and potential development, pending site-specific analysis of future leasing applications.[62] The BLM manages 818 geothermal leases (59 in producing status), with a total capacity of 1,500 megawatts (about 40% of U.S. geothermal energy capacity). Under EPAct05, states receive 50% of the revenue generated from rental and royalty payments from geothermal leases within their states, counties receive 25%, and the remaining 25% goes to the Treasury. The Obama Administration has proposed returning to the pre-EPAct05 formula, which shared revenues equally among the states and the federal treasury.[63]

Wind and Solar Energy

Development of solar and wind energy sources on BLM and FS lands are governed by right-of-way authorities under Title V of FLPMA.[64] These projects could require large tracts of land to replace or add significant electric generating capacity, in addition to new transmission capacity. The extent of some of the environmental impacts of renewable energy production, such as impacts on wildlife and on environmentally sensitive areas, remains controversial. Also at issue for Congress is how to balance solar and wind project applications against other land uses. For

(...continued)

Renewables & Efficiency, March 2013, http://www.dsireusa.org/documents/summarymaps/RPS_map.pdf.

[61] 30 U.S.C. §§1001-1028.

[62] BLM and Forest Service, *Record of Decision and Resource Management Plan Amendments for Geothermal Leasing in the Western United States*, BLM-WO-GI-09-003-1800, December 2008, http://www.blm.gov/ Geothermal_EIS.

[63] Budget Justification, BLM FY2013.

[64] 43 U.S.C. §§1761-1771.

example, in 2013, BLM finalized a rule allowing temporary withdrawal of subsurface mineral claims in areas with pending wind and solar project applications.[65]

BLM manages 20.6 million acres of public lands with wind energy potential and about 19 million acres for solar power development. As of September 2013, BLM has authorized 39 wind energy development projects and over 100 wind energy testing sites, and had 29 wind energy development applications pending on its public lands.[66] In October 2012, BLM finalized the plan for solar energy development on federal lands in six western states.[67] The Western Solar Plan established 19 Solar Energy Zones (SEZs) covering over 285,000 acres of federal lands that are designated as a priority area for commercial-scale solar projects. An October 2013 competitive auction to develop these projects received zero bids.[68] However, according to BLM, the agency approved 25 utility-scale solar projects from 2010 to 2012 and has 70 applications pending.[69]

FS has not approved any special use authorizations for solar projects to date, but in 2012 FS approved the first utility-scale wind power facility special use authorization. Implementation of the project to construct and operate a 15-turbine facility on the Green Mountain National Forest is pending the outcome of ongoing litigation.[70]

Woody Biomass

Removing woody biomass[71] from federal lands for energy production has received special attention because of its potential widespread availability. Biomass may serve as a renewable feedstock for energy production, and in addition, proponents assert that removing or reducing the amount of biomass density on National Forest System and BLM lands also provides landscape benefits such as improved forest resiliency and reduced risk of catastrophic wildfires. Opponents, however, are concerned that incentives to use wood and wood waste might increase land disturbances on federal lands (e.g., some of the biomass may be located in areas that are not easily accessible), and they are concerned about related wildlife, landscape, and ecosystem impacts. Other issues include the role of the federal government in developing and supporting emerging markets for woody biomass energy production, and whether to include biomass removed from federal lands in the Renewable Fuel Standard.[72]

[65] BLM, "Segregation of Lands-Renewable Energy," 78 *Fed. Reg.* 25204, April 30, 2013.

[66] BLM Fact Sheet, Renewable Energy and the BLM, Wind, Updated September 2013.

[67] These six states are Arizona, California, Colorado, Nevada, New Mexico, and Utah. BLM Fact Sheet, Renewable Energy and the BLM: Solar, Updated September 2013.

[68] Scott Streater, "First-ever auction of solar-zone parcels draw zero industry interest," *E&E News PM*, October 24, 2013, http://www.eenews.net/eenewspm/stories/1059989375/.

[69] Ibid.

[70] For more information, see the FS Deerfield Wind Energy Development Special Use Permit EIS webpage: http://data.ecosystem-management.org/nepaweb/fs-usda-pop.php?project=7838.

[71] Woody biomass is defined by FS and BLM as the trees and woody plants, including limbs, tops, needles, leaves, and other woody parts, grown in a forest, woodland, or rangeland environment that are the byproducts of forest management.

[72] For more information on the renewable fuel standard, see CRS Report R43325, *The Renewable Fuel Standard: In Brief*, by Kelsi Bracmort and CRS Report R40155, *Renewable Fuel Standard (RFS): Overview and Issues*, by Randy Schnepf and Brent D. Yacobucci.

Administration efforts to promote and implement woody biomass energy production have focused on developing policy principles, research and development, infrastructure needs, and capacity building. [73] FS and BLM both award woody biomass utilization research grants through EPAct05.[74] Programs such as stewardship contracting and the collaborative forest landscape restoration program authorize both agencies to implement woody biomass utilization projects.

CRS Product

CRS Report R40529, *Biomass: Comparison of Definitions in Legislation*, by Kelsi Bracmort.

Locatable Minerals

Locatable minerals include both metallic minerals (e.g., gold, silver, copper), nonmetallic minerals (e.g., mica, gypsum) and other minerals generally found in the subsurface.[75] Developing these minerals on federal lands is guided by the General Mining Law of 1872. The law, largely unchanged since 1872, grants free access to individuals and corporations to prospect for minerals in open public domain lands, and allows them, upon making a discovery, to stake (or "locate") a claim on the deposit. A claim gives the holder the right to develop the minerals and apply for a patent to obtain full title of the land and minerals. Congress is considering whether and how to reform the law, including how to capture the value of the federal resources and how to balance mineral development with competing resource values. Another issue is the lack of direct authority for environmental protection under the statute and how to address cleaning up abandoned hardrock mines. In addition, Congress has imposed a moratorium on mining claim patents in the annual Interior appropriations laws since FY1995, but has not restricted the right to stake claims or extract minerals.

The mining industry supports the claim-patent system, which offers the right to enter federal lands and freely prospect for and develop minerals. Critics consider the claim-patent system a giveaway of publicly owned resources because royalty payments are not required and the amounts paid to maintain a claim and to obtain a patent are small. New mining claim location and annual claim maintenance fees are currently $34 and $140 per claim, respectively.[76]

The Obama Administration has proposed to place most hardrock minerals produced on public lands into a leasing system, including a 5% "gross proceeds" royalty on the value of production.[77] The proposal also includes a fee on the volume of material extracted by hardrock mining on all U.S. lands to raise revenues for abandoned hardrock mine reclamation efforts.[78]

[73] See for example, *Memorandum of Understanding on Policy Principles for Woody Biomass Utilization for Restoration and Fuel Treatments in Forests, Woodlands, and Rangelands*, June 2003, http://www.fs.fed.us/woodybiomass/documents/BiomassMOU_060303_final_web.pdf and Forest Service, *Woody Biomass Utilization Desk Guide*, September 2007, http://www.forestsandrangelands.gov/Woody_Biomass/documents/biomass_deskguide.pdf.

[74] See for example, http://www.forestsandrangelands.gov/Woody_Biomass/opportunities.shtml.

[75] Management of non-locatable minerals (e.g., sand, gravel, and stone) on federal lands is governed by the Materials Act of 1947.

[76] The fees are to be adjusted every five years based on the Consumer Price Index (30 U.S.C. 28 j (c)).

[77] Budget Justification, BLM, FY2013.

[78] Budget Justifications, BLM, FY2013.

CRS Product

CRS Report RL33908, *Mining on Federal Lands: Hardrock Minerals*, by Marc Humphries.

Range Management

Livestock Grazing

Management of federal rangelands, particularly by the BLM and FS, presents an array of policy matters for Congress. Several issues pertain to livestock grazing. For instance, there is debate about the appropriate fee that should be charged for grazing private livestock on BLM and FS lands, including what criteria should prevail in setting the fee. Today, fees are charged under a formula established by law in 1978, then continued indefinitely through an executive order issued by President Reagan in 1986.[79] The BLM and FS are charging a grazing fee of $1.35 per animal unit month (AUM)[80] on about 139 million and 78 million acres of land respectively. This is the minimum fee established under current law. Generally, livestock producers who use federal lands want to keep fees low to sustain ranching and rural economies, while conservation groups and others seek increased fees to recover program costs or approximate market value.

The BLM and FS issue permits and/or leases to ranchers that specify the terms and conditions for grazing on agency lands. Permits and leases generally cover a 10-year period, and may be renewed. Further, expired permits and leases may be automatically renewed through FY2015 while the agencies process a backlog of permits and leases needing evaluation.[81] Questions for Congress have included whether to continue to automatically renew expiring permits/leases, extend the permit/lease length (e.g., to 20 years), and exclude the requirement for environmental analysis if current levels of grazing would continue under the renewal.

The effect of livestock grazing on rangelands has been part of a debate on the health and productivity of rangelands. Due to environmental concerns, some recent proposals would restrict or eliminate grazing, for instance, through voluntary retirement of permits and leases and subsequent closure of the allotments to grazing. These efforts are opposed by those who support ranching on the affected lands for not only environmental but lifestyle and economic reasons. Another focus of the discussion on range health and productivity is the spread of invasive and noxious weeds. (See "Invasive Species" section below.)

Wild Horses and Burros

There is continued congressional interest in management of wild horses and burros, which are protected on BLM and FS lands under the Wild Free-Roaming Horses and Burros Act of 1971.[82]

[79] P.L. 95-514, 92 Stat. 1803; 43 U.S.C. §§1901, 1905. Executive Order 12548, 51 *Fed. Reg*. 5985 (February 19, 1986).

[80] BLM defines an AUM, for fee purposes, as a month's use and occupancy of the range by one animal unit, which includes one yearling, one cow and her calf, one horse, or five sheep or goats. The FS uses head-month (HD-MO) as its measurement for use and occupancy of FS lands. AUM is used in this memorandum to cover both HD-MO and AUM.

[81] P.L. 113-76, Sec. 411.

[82] 16 U.S.C. §§ 1331 et seq.

Under the act, the agencies inventory horse and burro populations on their lands to determine appropriate management levels (AMLs). While the agencies are authorized to remove animals exceeding the range's carrying capacity, currently both the BLM and FS have populations exceeding their national AMLs. Specifically, the FS estimates AML at 2,400 wild horses and burros, and population on its lands at about 5,500. BLM estimates AML at 26,677 wild horses and burros, and population at 40,605. Off the range, BLM provides funds to care for approximately 49,591 additional wild horses and burros in short-term corrals and long-term (pasture) holding facilities.

The agencies use a variety of methods to meet AML, including programs to adopt and sell animals; care for animals in holding; administer fertility control; and, most recently, establish ecosanctuaries. Questions for Congress include the sufficiency of these authorities for managing wild horses and burros. Another controversial question is whether the agencies should humanely destroy excess animals, as required under law, or whether Congress should continue to prohibit funds from being used to slaughter healthy animals. Additional issues center on the costs of management, particularly the relatively high cost of caring for animals in holding. Also, some recent proposals have focused on options for keeping animals on the range, such as by expanding areas for herds and changing the method for determining AML.

CRS Products

CRS Report RS21232, *Grazing Fees: Overview and Issues*, by Carol Hardy Vincent.

CRS Report RL34690, *Wild Horses and Burros: Issues and Proposals*, by Carol Hardy Vincent.

Recreation

The growing and diverse nature of recreation on federal lands and waters has increased the challenge of balancing different types of recreation with each other and with other land uses. At issue are questions of access to recreational opportunities, regulation of activities,—for example, through zoning or usage fees—impacts on natural and cultural resources, and the extent of motorized versus nonmotorized use.

One issue is how—or whether—fees should be collected for recreational activities on federal lands. The Federal Lands Recreation Enhancement Act (P.L. 108-447) established a recreation fee program for five federal agencies—the FLMAs and the Bureau of Reclamation. The program was set to expire in 2014, but was extended until December 8, 2015, by P.L. 113-46. Congress faces the issue of whether to let the program expire after that date, or whether to further extend it or make it permanent, as well as issues regarding the program's structure. The current program provides for various kinds of fees, specifies criteria for determining them, and establishes a national recreation pass. Agencies can use collections without further appropriation. Most of the money is for improvements at the collecting site, such as maintenance and capital improvement projects. Supporters of the program contend that it allows fees to be charged only in appropriate circumstances, sets fair and similar fees among agencies, keeps most fees on-site for improvements that visitors desire, and provides for public involvement. Among critics, some oppose recreation fees in general; others find fault with the current program, asserting, for example, that fees are appropriate for fewer agencies or types of lands, that the fee structure

should be simplified and funds obligated more quickly, or that the program should ensure that most fees are used to reduce agency maintenance backlogs.

Another contentious issue is the use of off-highway vehicles (OHVs)—all-terrain vehicles, snowmobiles, personal watercraft, and others—on federal lands and waters. OHVs are a popular recreational use on BLM and FS land, while the NPS and FWS have fewer lands allowing them. OHV supporters contend that the vehicles facilitate visitor access to hard-to-reach natural areas and bring economic benefits to communities serving riders. Critics raise concerns about potential damage to wildlife habitat and ecosystems and disturbance of nonmotorized recreation. Recent Congresses have explored broad questions of OHV access to federal lands and agency management of motorized recreation in the context of oversight hearings, but legislation has largely been unit-specific, focused on OHVs at individual parks, forests, conservation areas, and other federal sites.

Access to opportunities on federal lands for hunting, fishing, and recreational shooting (e.g., at shooting ranges) is also an issue for Congress. Hunting and fishing are allowed on the majority of federal lands, but some believe they are unnecessarily restricted by agency planning processes. Others question whether opening more lands to hunting, fishing, and recreational shooting is fully consistent with good game management, public safety, other recreational uses, resource management, and the statutory purposes of the lands. In the 113th Congress, a number of bills seek to expand access to hunting, fishing, and recreational shooting, for example, by ensuring that a certain amount of LWCF funding would be used for additional physical access to hunting and fishing areas (e.g., through acquisition of lands or rights of way); by changing federal land management policies to open more land to hunting, fishing, and recreational shooting; or by giving those activities a higher priority in land management. Congress may consider which agencies' lands would be affected by such measures; whether land management and planning processes need to be changed to achieve access goals; and whether and how areas designated as wilderness would be affected.

CRS Products

CRS Report RL33730, *Recreation Fees Under the Federal Lands Recreation Enhancement Act*, by Carol Hardy Vincent.

CRS Report R42920, *Motorized Recreation on Bureau of Land Management and Forest Service Lands*, by Carol Hardy Vincent and Katie Hoover.

CRS Report R42955, *Motorized Recreation on National Park Service Lands*, by Laura B. Comay et al..

Special Land Designations

In addition to the land protection systems administered by the individual agencies, Congress has created three cross-cutting special systems of federal lands to preserve or emphasize particular values or resources, or to protect the natural conditions for biological, recreation, or scenic purposes. These systems are the congressionally designated National Wilderness Preservation System, National Wild and Scenic Rivers System, and National Trails System. The units of these

systems can be on one or more agency's lands, and the agencies manage them within parameters set in statute.

Congress and the Administration also establish other designations on federal lands, such as individual special management areas within the National Forest System. While many of the designations are unique, some have been more commonly applied, such as a national recreation area, national scenic area, or a national monument. The extent to which Congress and the Administration should expand special systems and establish other special designations on federal lands, and the types, locations, and management of such designations, continues to be controversial.

Congress has also established 49 national heritage areas (NHAs). NHA designations commemorate, conserve, or promote areas that include important natural, scenic, historic, cultural, and recreational resources. NHAs are partnerships among the NPS, states, and local communities, where the NPS supports state and local conservation through federal recognition, seed money, and technical assistance. NHAs are not part of the National Park System, where lands are federally owned and managed. Rather, lands within heritage areas typically remain in state, local, or private ownership or a combination thereof. Heritage areas have been supported as protecting lands and traditions and promoting tourism and community revitalization, but opposed as potentially burdensome, costly, or leading to federal control over nonfederal lands. Among other issues, Congress has debated whether to establish a system of NHAs, provide criteria for their designation, standards for their management, and limits on federal support.

CRS Products

CRS Report RL33462, *Heritage Areas: Background, Proposals, and Current Issues*, by Carol Hardy Vincent and Laura B. Comay.

CRS Report R41285, *Congressionally Designated Special Management Areas in the National Forest System*, by Katie Hoover.

Wilderness and Roadless Areas

In 1964, the Wilderness Act created the National Wilderness Preservation System, with statutory protections that emphasize preserving areas in their natural state. Units of the system only can be designated by Congress. Many bills to designate wilderness areas have been introduced in each Congress. The 112th Congress was the first Congress since 1964 that did not add to the wilderness system. As of January 2014, there are 759 wilderness areas, totaling nearly 110 million acres in 44 states, and managed by all four of the FLMAs. A wilderness designation generally prohibits commercial activities, motorized access, and human infrastructure from wilderness areas, subject to valid existing rights. Advocates propose wilderness designations to preserve the generally undeveloped conditions of the areas. Opponents see such designations as preventing certain uses and potential economic development in rural areas where such opportunities are relatively limited.

Designation of new wilderness areas can be controversial, and questions persist over the management of areas being considered for wilderness designation. In the FS, lands that could be considered for wilderness designation may be part of the "inventoried roadless areas". The Clinton Administration promulgated nationwide rules to administratively protect the wilderness

characteristics of inventoried roadless areas in the National Forest System. Over a decade of litigation followed, with the Clinton Administration rule being enjoined twice, and the Bush Administration promulgating a rule that also was enjoined. The courts deciding the cases upheld the Clinton Administration rule, and in October, 2012, the Supreme Court refused to review the issue.

Questions also persist over BLM wilderness study areas (WSAs). WSAs are the areas BLM studied as potential wilderness, and BLM is required by FLPMA to protect their wilderness characteristics of "until Congress determines otherwise." This has raised legal questions, including whether release language is needed to allow multiple use management of WSAs not designated as wilderness. Congress has designated some WSAs as wilderness, and generally in the same statutes, Congress has released BLM from the requirement to protect the wilderness characteristics of certain other areas. However, release language in BLM wilderness statutes has generally been more controversial than for national forest areas.

CRS Products

CRS Report RL31447, *Wilderness: Overview and Statistics*, by Katie Hoover.

CRS Report R41649, *Wilderness Laws: Statutory Provisions and Prohibited and Permitted Uses*, by Kristina Alexander and Katie Hoover.

CRS Report R41610, *Wilderness: Legislation and Issues in the 113th Congress*, by Katie Hoover, Kristina Alexander, and Sandra L. Johnson.

CRS Report RL30647, *National Forest System (NFS) Roadless Area Initiatives*, by Kristina Alexander.

The National Wild and Scenic Rivers System and the National Trails System

The Wild and Scenic Rivers Act of 1968[83] created the National Wild and Scenic Rivers System. The act established a policy of preserving designated free-flowing rivers for the benefit and enjoyment of present and future generations. River units designated as part of the system are classified and administered as wild, scenic, or recreational rivers, based on the condition of the river, the amount of development in the river or on the shorelines, and the degree of accessibility by road or trail at the time of designation. Typically, rivers are added to the system by an act of Congress, but they may also be added by state nomination with the approval of the Secretary of the Interior. Congress initially designated 789 miles of eight rivers as part of the system in 1968. As of January 2014, there are 203 river units with 12,602 miles in 39 states and Puerto Rico, administered by all four of the FLMAs, or by state, local, or tribal governments.

Designation and management of lands within river corridors has been controversial in some cases. Issues include concerns about private property rights and water rights within designated river corridors. Controversies have arisen over state or federal projects prohibited within a corridor, such as construction of major highway crossings, bridges, or other activities that might

[83] P.L. 90-542, 16 U.S.C. §§1271 et seq.

affect the flow or character of the designated river segment. The extent of local input in developing river management plans is another recurring issue.

The National Trails System Act of 1968[84] created the National Trails System and authorized a national system of trails—across federal and nonfederal lands—to provide additional outdoor recreation opportunities and to promote the preservation of access to the outdoor areas and historic resources of the nation. The 1968 act established the Appalachian National Scenic Trail, stretching 2,158 miles from Maine to Georgia, and the Pacific Crest National Scenic Trail, covering 2,638 miles from Canada to Mexico through Washington, Oregon, and California. The system today includes 30 national trails (11 national scenic trails and 19 national historic trails), 1,225 national recreation trails, and 6 connecting-and-side trails. The system covers more than 67,000 miles and can be found in all 50 states, the District of Columbia, and Puerto Rico. National trails are administered by the FS, NPS, and BLM, in cooperation with appropriate state and local authorities. Most recreation uses are permitted, as are other uses or facilities that do not substantially interfere with the nature and purposes of the trail. However, motorized vehicles are generally prohibited on system trails.

Protection of national scenic and historic trails has sometimes proven challenging. Among other issues, land acquisition has sometimes been controversial. P.L. 111-11 gave federal land management agencies the authority to purchase land from willing sellers for a number of trails that had previously lacked such authority. Other issues have arisen around trail administration, involving partnerships between the federal government and volunteer nonprofit trail groups, as well as states and localities. Funding for the system is an ongoing concern. National scenic and historic trails primarily receive funding through the FLMAs that administer them, while national recreation trails receive much of their federal funding through transportation legislation. Additionally, new types of trails have occasionally been proposed for the system, such as "national discovery trails," which would be interstate trails connecting representative examples of metropolitan, urban, rural, and backcountry regions.[85]

CRS Products:

CRS Report R42614, *The National Wild and Scenic Rivers System: A Brief Overview*, by Sandra L. Johnson and Laura B. Comay.

CRS Report R41081, *The Wild and Scenic Rivers Act (WSRA): Protections, Federal Water Rights, and Development Restrictions*, by Cynthia Brougher.

National Monuments and the Antiquities Act

The Antiquities Act of 1906[86] authorizes the President to proclaim national monuments on federal lands that contain historic landmarks, historic and prehistoric structures, or other objects of natural, historic, or scientific interest. The President is to reserve "the smallest area compatible with the proper care and management of the objects to be protected."[87] Sixteen of the 19

[84] P.L. 90-543; 16 U.S.C. §§1241 et seq.

[85] See, for example, H.R. 3022 in the 113th Congress. Similar bills were introduced in previous Congresses.

[86] 16 U.S.C. § 431.

[87] 16 U.S.C. §431.

Presidents since 1906 have used this authority to proclaim a total of 137 monuments, including nine proclaimed by President Obama. Congress has modified many of these proclamations, has abolished some monuments, and has created monuments under its own authority.

Presidential establishment of monuments sometimes has been contentious. For instance, Congress limited the President's authority by requiring congressional authorization for extensions or establishment of monuments in Wyoming,[88] and by making withdrawals in Alaska exceeding 5,000 acres subject to congressional approval.[89] Currently, issues include the size of the areas and types of resources protected; the effects of monument designation on land uses; the level and types of threats to the areas; the inclusion of nonfederal lands within monument boundaries; the act's limited transparency process compared with the public participation and environmental review aspects of other laws; and the agency managing the monument.

Opponents have sought to revoke or impose restrictions on the President's authority to proclaim monuments. For instance, among the bills considered in recent Congresses were those that sought to block monuments from being declared in particular states; limit the size or duration of withdrawals; require the approval of Congress, the pertinent state legislature, or the pertinent governor before a monument could be proclaimed; or promote presidential creation of monuments in accordance with certain federal land management and environmental laws. Measures also were introduced to change land uses within monuments and to alter monument boundaries.

Monument supporters favor the Antiquities Act in its present form, asserting that the courts have upheld monument designations and that many past designations that initially were controversial have come to be supported. They note that Presidents of both parties have used the authority for over a century, and defend the President's authority to act promptly to protect valuable resources on federal lands that may be vulnerable to looting, vandalism, commercial development, and other permanent changes. They further contend that large segments of the public support land protection, such as through monument designations, for the recreational, preservation, and economic benefits that such designations can bring.

CRS Product

CRS Report R41330, *National Monuments and the Antiquities Act*, by Carol Hardy Vincent and Kristina Alexander.

Species Management

Each federal land agency has a responsibility to manage the plant and animal resources under its purview. An agency's authority or duty may be based on widely applicable statutes such as the Endangered Species Act, the Migratory Bird Treaty Act, or the Fish and Wildlife Coordination Act. But the agencies considered in this report also have more specific authorities in their own organic acts or in site-specific legislation.

[88] 16 U.S.C. §431a.

[89] 16 U.S.C. §3213.

In the case of the National Wildlife Refuge System, the conservation of plants and animals is the mission of the system, and other uses are allowed to the extent they are compatible with that mission.[90] While most refuges are open for public enjoyment, in some cases (such as island seabird colonies), the result may be a refuge that is closed to visitors. For the National Park System, resource conservation (including wildlife resources) is half of the Park Service's dual mission, shared with the other goal of public enjoyment. The missions of FS and BLM are multiple use, with species management being only one of several agency responsibilities.

The federal land management agencies do not exercise their wildlife authorities alone. Federal agencies share management of their wildlife resources with state agencies. For example, where game species are found on federal land and hunting is not expressly forbidden on that land, federal agencies work with states on wildlife censuses, and require appropriate state licenses to hunt on the federal lands. And the agencies often cooperate with states to enhance wildlife habitat to the benefit of both jurisdictions.

The four land management agencies do not maintain data on how many acres of land are currently open to hunting, fishing, and/or recreational shooting.[91] However, both BLM and the Forest Service estimate that more than 95% of their lands are currently open to these activities.[92] Among the FWS's 594 wildlife refuges and waterfowl production areas, more than 360 are open to some form of hunting, and more than 300 units offer fishing opportunities.[93] As of February 2014, hunting was permitted in 61 of the 401 NPS units, and fishing in 200 units.[94]

Congress considers species management issues such as how to balance land and resources use, when the protection of endangered and threatened species force the recognition of trade-offs among user groups. These conflicts are usually regional over resources such as surface or ground water, timber, or shorelines, to name a few.

Endangered Species

The protection of endangered and threatened species—under the 1973 Endangered Species Act (ESA)[95]—are controversial, in part, because dwindling species are often harbingers of resource scarcity. Under the ESA, all federal agencies must "utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and

[90] National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd et seq.).

[91] Personal communication between Laura Comay of CRS and NPS (Chris Powell, Senior Congressional Affairs Specialist) and BLM (Division of Legislative Affairs); Personal communication between Katie Hoover of CRS and. FS (Tony Edwards, Legislative Affairs Specialist); Personal communication between Lynne Corn of CRS and FWS (Martin Kodis, Deputy Chief, Division of Congressional and Legislative Affairs).

[92] The BLM estimate is derived from testimony in the 112th Congress on H.R. 3440, H.R. 2834, and H.R. 1444 regarding recreational shooting and hunting, and personal communication between BLM and Carol Hardy-Vincent of CRS, February 19, 2014. The FS estimate is from personal communication between Katie Hoover of CRS and Tony Edwards, FS Legislative Affairs Specialist, February 21, 2014.

[93] *U.S. Fish and Wildlife Service*, April 2013, http://www.fws.gov/refuges/about/pdfs/RecreationFactSheetApril2013.pdf.

[94] Personal communication between Laura Comay of CRS and Chris Powell, NPS Senior Congressional Affairs Specialist, February 21, 2014. Units may be completely open to hunting or fishing, or these activities may be permitted only in portions of the unit.

[95] P.L. 93-205, as amended; 16 U.S.C. §§1531-1543

threatened species listed pursuant to ... this Act."[96] As a result, the federal land agencies specifically must consider listed species in their land management plans, timber sales, energy or mineral leasing plans, and all other relevant aspects of their activities. They must consult with FWS (or NMFS, for most marine species and anadromous fish such as salmon) about those effects. The majority of these consultations result in little or no change in the actions of the land managers. But some result in major controversies over the appropriate balance of land and resource use with protection of endangered and threatened species, often with some user groups allied with the listed species.

The ESA may become a focus of debate, particularly where conservation of a species signals conflict over resources in various habitats. These species include sage grouse (energy and other resources in sage brush habitat) and polar bears (energy development in northern Alaska), among others. Conflicts arise once a species is listed, because legal tools, including penalties and citizen suits, are available to aid species recovery and protect habitat. Use of these tools, or the failure to use them, has led to conflict.[97] Proposals resulting from such conflicts include granting greater authority to states over whether a species may be listed, granting priority for water projects over species recovery, and limiting the ability of citizens groups to petition for listing new species. The House Committee on Natural Resources has explored these issues in several hearings in the 113th Congress.

CRS Products

CRS Report R42945, *The Endangered Species Act (ESA) in the 113th Congress: New and Recurring Issues*, by M. Lynne Corn et al.

CRS Report RL31654, *The Endangered Species Act: A Primer*, by M. Lynne Corn and Kristina Alexander.

CRS Report RL32992, *The Endangered Species Act and "Sound Science"*, by M. Lynne Corn and Kristina Alexander.

Invasive Species

While habitat loss is a major factor in the loss of species, invasive species have long been considered the second most important factor.[98] Invasive species may affect some of the key resources on federal lands. For example, gypsy moths have been a pest in eastern hardwoods, including national forests and Shenandoah National Park. The newly arrived fungus causing white-nose syndrome has devastated bat populations in northeastern states including those in caves on national park and national forest lands. Rats and cats threaten seabirds on coastal refuges, and goats harm rare native plant species on park units in Hawaii. In some cases, such as white-nose syndrome, no method of control is yet known, and current work is confined to

[96] 16 U.S.C. 1536(a).

[97] A more detailed discussion of the major provisions of ESA is provided in CRS Report RL31654, *The Endangered Species Act: A Primer*, by M. Lynne Corn, Kristina Alexander, and Eugene H. Buck.

[98] For example, see Randy G. Westbrooks, *Invasive Plants: Changing the Landscape of America*, Federal Interagency Committee for the Management of Noxious and Invasive Weeds, Washington, DC, 1998, p. 5.

research and prevention.[99] In other cases, such as the vegetation damage caused by non-native horses and burros, some control methods are considered inhumane, and others are considered expensive. In general, funding for detection, prevention, and control of invasive species on federal lands (and elsewhere) has been an issue. Several bills introduced in the 113th Congress address invasive species management on federal lands.

CRS Product

CRS Report R43258, *Invasive Species: Major Laws and the Role of Selected Federal Agencies*, by M. Lynne Corn and Renée Johnson.

Wildfire Management

Wildfire is a concern because it can lead to loss of human life, damage communities and timber resources,[100] and impact soils, watersheds, water quality, and wildlife. Management of wildfire—an unplanned and unwanted fire—includes preparedness, suppression, fuel reduction, site rehabilitation, and more.[101] More than 4.3 million acres burned in 2013 due to wildfire. This was less than half of the 9.3 million acres that burned in 2012.[102]

Wildfire management has been a responsibility of the federal government for over a century. The Forest Service and the DOI have overseen wildfire management, with the FS receiving approximately two-thirds of federal funding.[103] Although wildfires can occur on federal, state, or private lands, some 95% of the funding is used to protect federal lands. Wildfire management funding over the last ten years has ranged from $2.6 billion in FY2012 to $4.5 billion in FY2008.[104]

[99] For an example of prevention efforts, see those at Mammoth Cave National Park, where the fungus has already been found: http://www.nps.gov/maca/whitenose.htm.

[100] For more information on wildfire damages to homes and resources, see CRS Report RL34517, *Wildfire Damages to Homes and Resources: Understanding Causes and Reducing Losses*, by Kelsi Bracmort.

[101] Preparedness is any activity that leads to a safe, efficient and cost-effective fire management program, as well as the range of tasks necessary to build, sustain, and improve the capability to protect against, respond to, and recover from domestic incidents. Suppression is all of the work associated with extinguishing or confining a fire. Fuel reduction is manipulation, including combustion, or removal of fuels to reduce the likelihood of ignition and/or to lessen potential damage and resistance to control. Site rehabilitation is efforts undertaken generally within three years of a wildfire to repair or improve fire damaged lands unlikely to recover to a management approved condition, or to repair or replace minor facilities damaged by fire.

[102] The acreage burned in 2012 was the third largest acreage burned annually based on historical fire statistics, which were first reported in 1960. The first and second largest fire year on record for acres burned was 2006 and 2007, respectively. National Interagency Fire Center, *Current year-to-date by state (2013)*;http://www.nifc.gov/fireInfo/fireInfo_stats_YTD2012.html National Interagency Fire Center, *Wildland Fire Summary and Statistics Annual Report (2013),* http://www.predictiveservices.nifc.gov/intelligence/2013_Statssumm/intro_summary13.pdf.

[103] Wildfire management is funded under the Interior, Environment and Related Agencies appropriations bill. For more information on federal funding for wildfire management, see CRS Report R43077, *Wildfire Management: Federal Funding and Related Statistics*, by Kelsi Bracmort, and CRS Report RL33990, *Federal Funding for Wildfire Control and Management*, by Kelsi Bracmort.

[104] Ibid.

Congressional activity regarding wildfire management typically peaks during the fire season, and during the early part of the budget process.[105] Wildfire management legislative issues for Congress include oversight of the agencies' fire management activities and other wildland management practices that have altered fuel loads over time; consideration of programs and processes for reducing fuel loads;[106] rising wildfire suppression costs; and federal roles and responsibilities for wildfire protection and damages, including supplemental appropriations to deal with these issues.[107] Another issue is the impact of the expanding wildland-urban interface (WUI) which has increased the wildfire threat to people and houses. Approximately 10% of all land within the lower 48 states is classified as WUI, with a significant concentration along the East Coast, although western states have the highest proportions of homes and structures in the WUI.[108]

There is also congressional interest in FS air tanker readiness and efficacy,[109] specifically the planning for aviation resources given wildfire projections, the number and age of available air tanker units, and the contract process to place the units in service. FS aviation assessments conclude that additional resources are needed, but differ on the type, quantity, and cost of these resources.[110] In 2013, FS awarded contracts with five companies to supply the agency with new air tankers over the next five years.[111] Additionally, the National Defense Authorization Act for Fiscal Year 2014 authorizes the Department of Defense and the Department of Homeland Security to transfer aircraft to the Forest Service for wildfire suppression.[112]

CRS Products:

CRS Report RL33990, *Federal Funding for Wildfire Control and Management*, by Kelsi Bracmort.

CRS Report RL30755, *Forest Fire/Wildfire Protection*, by Kelsi Bracmort.

CRS Report RS21880, *Wildfire Protection in the Wildland-Urban Interface*, by Kelsi Bracmort.

---

[105] The fires season generally starts in mid or late summer and ends in mid or late fall. Factors such as wind, drought, precipitation events from the previous year, and more contribute to the length and severity of the fire season.

[106] For more information on options for fuel reduction, see CRS Report R40811, *Wildfire Fuels and Fuel Reduction*, by Kelsi Bracmort.

[107] For more information, see CRS Report RL30755, *Forest Fire/Wildfire Protection*, by Kelsi Bracmort.

[108] For more information, see CRS Report RS21880, *Wildfire Protection in the Wildland-Urban Interface*, by Kelsi Bracmort.

[109] The FS reports that the average age of air tankers still in service is more than 50 years old. USDA Forest Service, *Large Airtanker Modernization Strategy*, January 17, 2012http://www.fs.fed.us/fire/aviation/airtanker_modernization_strategy.pdf.

[110] RAND Corporation, *Air Attack Against Wildfires: Understanding U.S. Forest Service Requirements for Large Aircraft*, 2012http://www.rand.org/pubs/monographs/MG1234.html; National Interagency Aviation Council, *Interagency Aviation Strategy*, July 2008; Fire Program Solutions LLC, *Wildland Fire Management Aerial Application Study*, USDA Forest Service, October 17, 2005; Forest Service, *Federal Aerial Firefighting: Assessing Safety and Effectiveness*, December 2002; USDA Forest Service, *National Study of Airtankers to Support Initial Attack and Large Fire Suppression*, 1995http://www.fs.fed.us/fire/publications/aviation/nats1_report.pdf.

[111] Forest Service, "U.S. Forest Service issues notice of intent to award "Next Generation" airtanker contracts," press release, May 6, 2013, http://www.fs.fed.us/news/2013/releases/05/next-gen-tanker.shtml.

[112] P.L. 113-66 Sec. 1098.

CRS Report R40811, *Wildfire Fuels and Fuel Reduction*, by Kelsi Bracmort.

CRS Report RL34517, *Wildfire Damages to Homes and Resources: Understanding Causes and Reducing Losses*, by Kelsi Bracmort.

CRS Report R41858, *Federal Assistance for Wildfire Response and Recovery*, by Kelsi Bracmort.

Author Contact Information

Katie Hoover
Analyst in Natural Resources Policy
khoover@crs.loc.gov, 7-9008

Curry L. Hagerty
Specialist in Energy and Natural Resources Policy
chagerty@crs.loc.gov, 7-7738

Kelsi Bracmort
Specialist in Agricultural Conservation and Natural Resources Policy
kbracmort@crs.loc.gov, 7-7283

Carol Hardy Vincent
Specialist in Natural Resources Policy
chvincent@crs.loc.gov, 7-8651

Laura B. Comay
Analyst in Natural Resources
lcomay@crs.loc.gov, 7-6036

Marc Humphries
Specialist in Energy Policy
mhumphries@crs.loc.gov, 7-7264

M. Lynne Corn
Specialist in Natural Resources Policy
lcorn@crs.loc.gov, 7-7267

Sandra L. Johnson
Information Research Specialist
sjohnson@crs.loc.gov, 7-7214